A new original software interface between the WRF mesoscale meteorological model and the SPRAYWEB dispersion model has been developed. The model chain was designed such a highly responsive tool for risk assessment and emergency-response purposes. The model interface reads the wind and temperature fields provided by WRF and interpolates them on a fixed-in-time grid, which is the input to the dispersion model. Furthermore, it calculates the turbulence-parameter vertical profiles, based on the surface-layer data provided by WRF. In this work we simulate the dispersion of a high-buoyancy plume. The model chain performances were tested against the Bull-Run dataset.